

Amendments to the Claims:

1.-8. (canceled)

9. (currently amended) A diagnostic system for a check valve of a positive displacement pump having a solid-borne sound sensor, comprising:

a calculating device configured to calculate a first operative sound level of a first value of a first operative sound signal recorded in a ~~closed~~-first state of the valve induced during operation of the pump and to ~~calculate~~-determine a second operative sound level of a second value of a second operative sound signal recorded in an ~~open~~-second state of the valve induced during operation of the pump, wherein ~~a~~-the first sound value is determined based on a ~~last~~ current sound signal recorded in the ~~closed~~-first state of the valve and ~~a~~-the second sound value is determined based on a last sound signal recorded in the ~~open~~-second state of the valve;

~~an evaluation~~a determining device configured to determine ~~a valve~~the relevant state of the valve via an auto correlation; and

a signal output ~~for that~~ displaying a fault if ~~the~~-a deviation ~~of~~between the first sound level determined for the ~~closed~~-first state of the valve ~~from~~-and the second sound level determined for the ~~open~~-second state of the valve exceeds a pre-determinable threshold value.

10. (currently amended) The diagnostic system in accordance with claim 9, wherein the first value is determined based on a ~~last~~-current sound signal recorded in the closed state of the valve and the second value is determined based on a last sound signal recorded in the open state of the valve.

11. (previously presented) The diagnostic system in accordance with claim 10, wherein the valve is a check valve of the positive displacement pump.

12. (currently amended) The diagnostic system in accordance with claim 11, wherein the evaluation device determines the valve state based on an auto correlation of the first sound signal recorded and/or an auto correlation of the second sound signal recorded.

13.-20. (canceled)